

EXHIBIT 199

REDACTED

Dynamic Sell-side Revshare on AdX

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Tracking bug: [REDACTED]

Dynamic Sellside Revshare on AdX

Goal

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Goal

We would like to allow dynamic sell-side revshare on AdX so that transactions that would have not been cleared because of fixed sell-side revshare can be cleared. This is for increasing matching rate on AdX and revenue. The expected revenue impact is [REDACTED] with overall AdX margin at 19%. See Nirmal's original doc for more analysis.

This document describes the AdX serving change for running dynamic sell-side revshare experiments.

Background

Currently AdX takes a fixed 20% revshare from transactions for all buyers (AdWords or RTB buyers). The 20% AdX revshare is called **sell-side** revshare, in contrast to additional 14% **buy-side** revshare Google take for AdWords buyers. Dynamic buy-side revshare has been launched with positive outcome. This launch focuses on sell-side revshare.

Commented [1]: [REDACTED]

What is the behavior with negotiated RevShares? Is it the same thresholds? (in which case it probably doesn't affect much?)

Thanks!

Commented [2]: In such a case we can take up to the maximum of the negotiated share, so instead of adjusting sell side share between 0-20% we'd adjust between, say, 0-15%

Commented [3]: makes perfect sense, thanks a lot :)

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	AdWord 1	AdWord 2	RTB
Bid entering AdX	2	1	1.4
In fixed sell-side revshare (20%), bids are taken out revshare before comparing with reserve price.	1.6	0.8	1.12
Auction outcome with reserve price of 1.5 under fixed sell-side revshare	Winner (the clearing price 1.5, publisher gets 1.5, advertiser pays 1.88, AdX takes 20% margin)	FILTERED	FILTERED
Auction outcome with reserve price of 1.7 under fixed sell-side revshare	FILTERED	FILTERED	FILTERED
In dynamic sell-side revshare , bids are NOT taken out revshare before comparing with reserve price.	2	1	1.4
Auction outcome with reserve price of 1.5 under dynamic sell-side revshare	Winner (the clearing price is 1.5, publisher gets 1.5, advertiser pays 1.88, AdX takes 20% margin)	FILTERED	FILTERED
Auction outcome with reserve price of 1.7 under dynamic sell-side revshare	Winner (the clearing price is 1.7, publisher gets 1.7, advertiser pays 2, AdX takes 15% margin)	FILTERED	FILTERED
Auction outcome with reserve price 1.1 under dynamic sell-side revshare	Winner (the clearing price is 1.12, publisher gets 1.12, advertiser pays 1.4, AdX takes 20% margin)	FILTERED	SECOND BID

	AdWord 1	AdWord 2	RTB
Bid entering AdX	2	1	1.9
In dynamic sell-side revshare , bids are NOT taken out revshare before comparing with reserve price.	2	1	1.9
Auction outcome with reserve price 1.1 under dynamic sell-side revshare	Winner (the clearing is 1.52, publisher gets 1.52, advertiser pays 1.9, and AdX takes 20% margin).	FILTERED	SECOND BID

When a request from AdX seller comes, AdX solicits bids from AdWords and RTB buyers.

AdWord bid: \$2
AdWord bid 2: \$1
RTB bid: \$1.4

Post-revshare bids below minimum reserve price are filtered before auction. With **fixed sell-side revshare** (e.g., 20%), all bids are taken out sell-side revshare and compare with minimum reserve price.

Post-revshare AdWord bid 1: \$1.6
Post-revshare AdWord bid 2: \$0.8
Post-revshare RTB bid: \$1.12

If the minimum reserve price is \$1.5, top AdWord bid can enter the auction. The clearing price is \$1.5, AdX pays the publisher \$1.5 and charges the buyer \$1.875 ($= 1.5 / 0.8$), taking fixed 20% margin ($= 1 - 1.5 / 1.875$).

If the minimum reserve price is \$1.7, all bids are removed before auction and no transaction happens. However, we may clear the transaction if AdX is willing to take less than 20% sell-side revshare.

With **dynamic sell-side revshare**, we will assume sell-side revshare may go as low as zero, and will filter bids effectively based on original bids.

Post-revshare AdWord bid 1: \$2
Post-revshare AdWord bid 2: \$1
Post-revshare RTB bid: \$1.4

Commented [6]: So this is perhaps a crazy idea, but what if Dynamic Revenue Share was defined differently. Right now, we will behind the scenes take less of a share to make more money for us and for the publishers. Why should we pay all of this cost for the increased revenue? Even with the probabilistic controls, our average rev share will be <20. Yes we should get more money overall, but the publisher will by far reap the most benefits with us paying the full price. What if we instead defined DRS this way: Publishers will pay us 20% on average over a period — we can do whatever we want on a per-impression basis and charge whatever share we want for each, as long as the average over the day/week/month/whatever period we choose is 20%. Could instead do that with some number other than 20% if we feel like we want to take less to drive more business, but it is a much better story for us if we don't advertise that we are willing to take less (and buyers won't be able to game and push our margin down with this approach). We would take more than 20% margin when the second price is above reserve, and we would take less margin as described in this doc when the bids are less than reserve. There is no risk of going over 20% over the period — we can even do the higher margin calculations at the end of the period. The main thing we need to control is how often we can take less and how much less we can take (including negative) — this is just to maximize revenue with the 20% margin. Pubs would need to buy in to this, but it should be win-win. There are probably some reporting issues. [REDACTED] pointed out that we need to be careful to make sure we don't cause bad consequences — eg take from mobile to pay for web. ...

Commented [7]: This is not crazy at all and is a good way to maintain AdX margin at higher level. I will loop in Legal and pursue this extension as v2.

Commented [8]: Essentially, AdX Bernanke will achieve this. We should pursue Bernanke on AdX once DRS is done. When I get some bandwidth, I'll run some simulations to see whether there is value in pursuing AdX Bernanke.

Commented [9]: Yes once we want to go down to negative margin to subsidize AdX buyers, it will be subsumed by Bernanke. Initially we were talking about averaging over queries only with positive margins (some we charge more than 20% and some we charge less than 20%) to keep average at 20% instead of 19%.

Commented [10]: The only thing about making this idea v2 is that we will head down the "willing to take less margin" path, which may be hard to return from. On the other hand, I understand we need to get launched — I guess in the worst case 19% becomes our new baseline — we could probably get v2 before there was too much downward margin pressure.

Commented [11]: Agree, we phase the projects into two parts (DRS followed by Bernanke) mostly because we need to fight legal battle and have more belts and whistles to design and build for AdX Bernanke.

If the minimum reserve price is \$1.5, top AdWord bid enters the auction. The clearing price is \$1.5, AdX pays the publisher \$1.5 and charges the buyer \$1.875 ($= 1.5 / 0.8$), taking fixed 20% margin ($= 1 - 1.5 / 1.875$). The outcome of the auction, running with 0% sell-side revshare, is the same as the outcome from the fixed 20% sell-side revshare.

If the minimum reserve price is \$1.7, top AdWord bid enters the auction. The clearing price is \$1.7, AdX pays the publisher \$1.7 and charges the buyer \$2, taking dynamic 15% margin ($= 1 - 1.7 / 2$). In practice, after winner is chosen, we compare the effective revshare based on payout and bid and maximum sell-side revshare (20%), and choose the small one as the final sell-side revshare.

Cases

Programmatic Reservation and Fixed CPM deals

Fixed CPM deals (preferred deals, private auctions) are not supported by dynamic sell-side revshare yet. Their auction outcome will not be changed after dynamic sell-side revshare is enabled for second priced candidates.

	First placed bid	Second placed bid	third-party reserve price
Pre sell-side revshare (original bids)	2 (programmatic reservation)	1 (open auction)	2.125
Post sell-side revshare	$1.9 (= 2 * 0.95)$	$0.8 (= 1 * 0.8)$	$1.7 (= 2.125 * 0.8)$

We clear at the programmatic reservation bid, charge advertiser \$2, and take default 5% margin. The auction outcome is the same as that when dynamic sell-side revshare is not enabled.

	First placed bid	Second placed bid	third-party reserve price
Pre sell-side revshare (original bids)	1.75 (programmatic reservation)	1 (open auction)	2.125
Post sell-side revshare	$1.66 (= 1.75 * 0.95)$	$0.8 (= 1 * 0.8)$	$1.7 (= 2.125 * 0.8)$

There is no winner because highest bid is below third-party reserve ($1.66 < 1.7$). The auction outcome is the same as that when dynamic sell-side revshare is not enabled.

Commented [12]: + [REDACTED] Are you ok with this section? There is mention of possible future enablement you might want to comment on (pls CC me) Thanks

Commented [13]: Thanks. I don't think we should touch deals. That may have unintended consequences and we're likely to burn margins on exchange rates variations. The price is negotiated between the publisher and the buyer as a gross value and that would be suspicious to transact. There is a risk to break troubleshooting tools/workflows as well.

+ [REDACTED] I do not see any references to Private Auctions here. Do you mind specifying that? I'm not comfortable having Dynamic Revshare enabled for Private Auction, for the same reasons than above.

Commented [14]: Private auction will be similar to preferred deals and are excluded from v1 for now.

The concern is burning margin should be less an issue. We have throttling in place. If publishers have large exchange rate variations, we will "throttle" their queries, and they will have fixed revshare as now, that is, no dynamic revshare.

Commented [15]: Thanks [REDACTED]. Let's talk about it when that comes on the table for v2. I have to think about the consequences.

Especially with throttling, I'm afraid deals work and then stop working in completely unexpected way that's hard to understand/troubleshoot.